

IN THE SPECIFICATION:

Following the Title of the application, please add the following section heading and paragraph:

--CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation of application Serial No. 09/580,204 filed May 26, 2000, now United States Patent No. _____, which is a continuation of application Serial No. 08/956,993 filed October 23, 1997, now United States Patent No. 6,092,110, which are all incorporated herein in their entireties by reference thereto.—

Please re-write the second full paragraph bridging pages 3 and 4 as follows:

From the foregoing, it can be appreciated that a substantial ~~needs~~need exists for a high performance data packet filter which can work with a large number of source IP addresses. There is also a need for an efficient way to administer source IP address lists.

Please re-write the fourth and fifth full paragraphs starting on page 7 and bridging onto page 8 as follows:

The heart of packet filter processor ~~38-14~~ is a dedicated high performance microprocessor 38. Any microprocessor capable of operating at the speeds necessary to implement of the functions of the packet filter processor is appropriate. Examples of processors suitable to practice the invention includes the INTEL family of processors, such as the Pentium®, Pentium® Pro, and Pentium® II microprocessors.

Packet filter processor 14 also includes a connector 34 and interface 36, both of which are attached to ~~processor~~microprocessor 38. Connector 34 and interface 36 both adhere to Electronic Industries Association (EIA) Standard RS-232-C titled "Interface Between Data Terminal Equipment and Data Communication Equipment Employing Serial Binary Data Interexchange," October, 1969. Finally, packet filter processor 14 includes a clock 26 and clock counter 28 to control the timing of packet filter processor 14.

Please re-write the second full paragraph on page 8 as follows:

Operating system 39 is designed to control the operation of ~~the processor~~ microprocessor 38. More particularly, operating system 39 is designed such that ~~the processor~~ microprocessor 38 is directed to look at the source IP address of each received data packet to determine if the source IP address matches one of the stored source IP addresses, and if there is a match, to either discard or forward the data packet depending on the processor configuration. Since operating system 39 and ~~processor~~ microprocessor 38 are dedicated to one task, packet filter processor 14 can perform the filtering process very quickly and efficiently. The operation of operating system 39, and of packet filter processor 14 in general, will be described in more detail with reference to FIG.3.

Please re-write the second full paragraph on page 9 as follows:

A network architecture defines protocols, message formats, and standards to which products must conform in order to connect properly with the network. Architectures are developed by standards organizations, common carriers, and a-computer and network vendors. Network architectures use a layered approach, whereby functions are organized into groups and assigned to specific functional layers in the architecture. Network architectures define the interfaces between layers in a given network node and within the same layer in two different nodes.

Please re-write the third full paragraph bridging pages 11 and 12 as follows:

Processor 38 reads the source IP address for the packet at step 52, and compares the source IP address with list 33, which is stored in DRAM ~~band~~ bank 32, at step 54. List 33 is stored in DRAM bank 32 in order to increase the speed at which data from the list could be retrieved by processor 38, as compared to, ~~e.g.~~ e.g., when data is stored on some other computer readable medium such as a hard drive or floppy disk. Step 56 comprises a test to determine whether there is a match at step 54. If there is a match at step 54, then packet filter processor 58 records the attempt at step 58 before passing control to step 60. If there is not a match at step 54, then control is directly passed to step 60.

Please re-write the second full paragraph bridging pages 12 and 13 as follows:

At step 60, packet filter processor 14 determines whether the packet should be passed depending on whether packet filter processor 14 has been set to permissive mode or restrictive mode. If packet filter processor 14 has been set to restrictive mode, and there is a match at step 56, then the packet is passed at step 62 to the destination network which in this embodiment of the invention is network 16 or terminal 18. If packet filter processor 14 has been set to restrictive mode, and there is not a match at step 56, then the packet is dropped at step 64. Conversely, if packet filter processor 14 has been set to permissive mode, and there is a match at step 56, then the packet is dropped at step 64. If packet filter processor 14 has been set to permissive mode, and there is not a match at step 56, then the packet is passed to the destination network at step 62. In this embodiment of the invention, a default condition is that no feedback is given to the system sending the packets for security reasons if a packet is dropped at step 64. It can be appreciated, however, that this default condition can be changed and still fall within the scope of the invention.

Please re-write the first full paragraph on page 13 as follows:

In accordance with the system administration aspects of the invention, a service provider administers a database of source IP address lists. Each list may contain the IP addresses of particular types of Internet sites. The service provider keeps these lists up to ~~data-date~~ and periodically updates list 33 stored in DRAM bank 32 of packet filter processor 14. In this manner, end users can be assured that the source IP address lists stored in their filtering processor are up to date.